

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Please amend claims 1, 10, 13, 38 and 43 as indicated below (material to be inserted is in **bold and underline**, material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets **[[]]**):

Listing of Claims:

1. (Currently amended) A display device comprising:
a spatial light modulator having an array **a two-dimensional array** of modulating elements forming a plurality of **two-dimensional multi-pixel** image regions;
a light generator configured to direct a different one of a plurality of **separate** light bands onto each of the plurality of image regions; and
a controller including a spatial image separator configured to assign received image information to a corresponding one of the image regions, the controller being configured to control modulation of the spatial light modulator appropriate to produce a separate **multi-pixel** image in each image region.

Page 2 -

AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

2. (Original) The display device of claim 1, where the plurality of light bands includes at least one of a red light band, a green light band, and a blue light band.
3. (Original) The display device of claim 1, where the light generator is configured to direct the plurality of bands of light onto image regions having at least one aligned edge.
4. (Original) The display device of claim 3, where the image regions are of the same size.
5. (Previously Presented) The display device of claim 4, where the array of modulating elements has a generally rectangular shape with adjacent sides having relative sizes, and the image regions have generally rectangular shapes with adjacent sides having relative sizes different than the relative sizes of the array of modulating elements.
6. (Cancelled)
7. (Previously Presented) The display device of claim 1, where the light bands are of different colors, and the controller is configured to control modulation of the spatial light modulator appropriate to produce differently colored component images of a composite image.
8. (Cancelled)

Page 3 - AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

PAGE 6/105 * RCVD AT 10/29/2006 6:36:43 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/18 * DNIS:2738300 * CSID: * DURATION (mm:ss):48:46

9. (Previously Presented) A display device comprising:

- a spatial light modulator having an array of modulating elements forming a plurality of image regions;
- a light generator configured to direct a different one of a plurality of light bands onto each of the plurality of image regions;
- a buffer adapted to receive image data for an image and buffer the image data to create a frame of the image;
- an image processing unit adapted to define a first sub-frame and at least a second sub-frame for the frame of the image from the image data, the second sub-frame being spatially offset from the first sub-frame, the image processing unit cooperating with the spatial light modulator to modulate at least one of the image regions according to the first and second sub-frames; and
- a display device adapted to alternately display the first sub-frame in a first position and the second sub-frame in a second position spatially offset from the first position.

10. (Currently amended) The display device of claim 9, where each sub-frame includes a matrix of pixels, and the display device is adapted to overlap pixels of the first pixel matrix sub-frame with pixels of the second pixel matrix sub-frame.

11. (Original) The display device of claim 9, where the second sub-frame is spatially offset at least one of a vertical distance and a horizontal distance from the first sub-frame, and wherein the display device is adapted to shift display of the second sub-

Page 4 - AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

frame from display of the first sub-frame by the at least one of the vertical distance and the horizontal distance.

12. (Original) The display device of claim 9, where the image processing unit and spatial light modulator cooperate to modulate a first image region with the first sub-frame and to modulate a second image region with the second sub-frame.

13. (Currently amended) A display device comprising:

a light source configured to produce multi-spectral light;

a spatial light modulator configured to modulate light received in a plurality of regions according to component images of a received composite image;

an optical separator configured to separate multi-spectral light into a plurality of separate and differently colored light bands, and to direct each of the light bands onto a respective one of the regions of the array spatial light modulator;

an optical combiner configured to combine the modulated light bands into a composite light band; and

a controller configured to control modulation of the spatial light modulator appropriate to produce differently colored multi-pixel component images of a multi-pixel composite image, the controller including a spatial image separator configured to assign received image information to a corresponding one of the image regions based on color.

14. (Original) The display device of claim 13, further comprising projection optics configured to direct the composite light band toward a display medium.

Page 5 -

AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. (Cancelled)
21. (Cancelled)
22. (Cancelled)
23. (Cancelled)
24. (Cancelled)
25. (Cancelled)
26. (Cancelled)
27. (Cancelled)
28. (Cancelled)
29. (Cancelled)
30. (Cancelled)
31. (Cancelled)
32. (Cancelled)
33. (Cancelled)

Page 6 - AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Currently amended) A display device comprising:

a spatial light modulator having an array a two-dimensional array of modulating elements configured to spatially modulate incident light; and

a controller configured to control modulation of the spatial light modulator appropriate to produce a differently-colored multi-pixel component image, in each of a plurality of separate two-dimensional image regions of the array of modulating elements according to received image information, the multi-pixel component images corresponding to images of different colors that when combined by concurrently displaying them on the same region of a display medium, form a multi-pixel composite color image, where the controller further includes a spatial image separator configured to assign received image information to a corresponding one of the image regions to produce a corresponding multi-pixel component image in the image region.

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

Page 7 -

AMENDMENT

Serial No. 10/632,634

HP Docket No. 200209409-1

KH Docket No. HPCC 3A1

42. (Previously Presented) A display device comprising:
a spatial light modulator having an array of modulating elements configured to
spatially modulate incident light; and
a controller configured to control modulation of the spatial light modulator
appropriate to produce an image in each of a plurality of separate image regions of the
array of modulating elements according to received image information, the controller
comprising:
a buffer adapted to receive image data for the image and buffer the
image data to create a frame of the image; and
an image processing unit adapted to define a first sub-frame and at
least a second sub-frame for the frame of the image from the image data,
the second sub-frame being spatially offset from the first sub-frame, the
image processing unit cooperating with the spatial light modulator to
modulate at least one of the image regions according to the first and
second sub-frames;
wherein the display device further comprises a display device adapted to display
the first sub-frame in a first position and the second sub-frame in a second position
spatially offset from the first position.

43. (Currently amended) The display device of claim 42, where each sub-
frame includes a matrix of pixels, and the display device is adapted to overlap pixels
of the first pixel matrix sub-frame with pixels of the second pixel matrix sub-frame.

Page 8 - AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

44. (Original) The display device of claim 42, where the second sub-frame is spatially offset at least one of a vertical distance and a horizontal distance from the first sub-frame, and wherein the display device is adapted to shift display of the second sub-frame from display of the first sub-frame by the at least one of the vertical distance and the horizontal distance.

45. (Original) The display device of claim 42, where the image processing unit and spatial light modulator cooperate to modulate a first image region.

46. (Cancelled)

47. (Cancelled)

48. (Cancelled)

49. (Cancelled)

50. (Cancelled)

51. (Cancelled)

Page 9

AMENDMENT
Serial No. 10/632,634
HP Docket No. 200209409-1
KH Docket No. HPCC 3A1

PAGE 12/105 * RCVD AT 10/29/2006 6:36:43 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/18 * DMS:2738300 * CSID: * DURATION (mm:ss):48-46